

## Exhibit A

*Life span, cancer, aging, fibrosis, CHF:*

Title : LONG-TERM TREATMENT WITH THE NHE-1 INHIBITOR CARIPORIDE EXTENDS THE NORMAL LIFESPAN OF WISTAR KYOTO RATS  
Authors : Linz, W.; Lang, H.-J.; Weichert, A.; Albus, U  
Source : Jarch.Pharmacol. 363(4; Suppl): R6; Nr.12 (2001)

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*Ischemia:*

Lemasters et al., FASEB J. 1993, 7, 536

Inhibition of  $\text{Na}^+/\text{H}^+$  exchange preserves viability, restores mechanical function, and prevents the pH paradox in reperfusion injury to cultured rat neonatal myocytes

M. Karmazyn, Br.J.Pharmacol (1993), 108: 50 - 56

$\text{Na}^+/\text{H}^+$  exchange inhibitors reverse lactat-induced depression in postischemic ventricular recovery

Karmazyn et al.(Univ.Ontario), J.Cardiovasc.Pharmacol. 1993, 21(1): 172

Comparative effects of  $\text{Na}^+/\text{H}^+$  exchange inhibitors against cardiac injury produced by ischemia/reperfusion, hypoxia/reoxygenation, and the  $\text{Ca}^{+2}$  paradox

Scholz, Albus, Lang, Linz, Martorana, Englert und Schölkens, Br.J.Pharmacol. (1993), 109: 562 - 568  
Hoe 694, a new  $\text{Na}^+/\text{H}^+$  exchange inhibitor and its effects in cardiac ischemia

Albus und Scholz, Basic Res. Cardiol 1993, 88(5): 443

$\text{Na}^+/\text{H}^+$  exchange and its inhibition in cardiac ischemia and reperfusion

M.Karmazyn, M Avkiran und L. Fliegel, "The Sodium-Hydrogen-Exchanger – from molecule to its role in disease" Kluwer Academic Publishers (2003) some chapters

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*Arrhythmias:*

S.Sack, M.Mohri, E.R.Schwarz, M.Arras, J. Schaper, W.Scholz, H.J. Lang, B. Schölkens und W. Schaper, J.Mol.Cell.Cardiol.(1992) 24: S290.

Inhibition of  $\text{Na}^+/\text{H}^+$  exchange prevents ventricular fibrillation and preserves function in stunned pig myocardium.

Yasutake M, Ibuki C, Hearse D.C., Avkiran M; Am.J.Physiol. (1994) 267(Nr.6), Pt 2: H2430-H2440

$\text{Na}^+/\text{H}^+$  exchange and reperfusion arrhythmias: protection by intracoronary infusion of a novel inhibitor

Title : Antiarrhythmic effects of Na-H exchange inhibition

Authors : Karmazyn,M.

Source : Drug Dev.Res. 55(1):22-28 (2002 Jan)

M.Karmazyn, M Avkiran und L. Fliegel, „The Sodium-Hydrogen-Exchanger – from molecule to ist role in disease“ Kluwer Academic Publishers (2003): Seiten 230, 244

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*Cardioprotective, infarction, angina pectoris:*

M.Karmazyn, M Avkiran und L. Fliegel, „The Sodium-Hydrogen-Exchanger – from molecule to ist role in disease“ Kluwer Academic Publishers (2003): Seiten 215, 221-232, 268-274

$\text{Na}^+/\text{H}^+$  exchange inhibition reduces hypertrophy and heart failure after myocardial infarction in rats. Kusumoto K; Haist J V; Karmazyn M Department of Pharmacology and Toxicology, The University of Western Ontario, London, Ontario, Canada N6A 5C1 AMERICAN JOURNAL OF PHYSIOLOGY. HEART AND CIRCULATORY PHYSIOLOGY (2001 Feb), 280(2), H738-45.

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*Organ transplantations, angioplastic surgical interventions:*

**Na<sup>+</sup>/H<sup>+</sup> exchange inhibition improves post-transplant myocardial compliance in 4-hour stored donor hearts.** Kim Y I; Herijgers P; Van Lommel A; Verbeken E; Flameng W Centre for Experimental Surgery and Anaesthesiology, Katholieke Universiteit Leuven, Belgium CARDIOVASCULAR SURGERY (1998 Feb), 6(1), 67-75. Journal code: 9308765. ISSN:0967-2109. ENGLAND: United Kingdom. Journal; Article; (JOURNAL ARTICLE) written in English. DN 98138883 PubMed ID 9546849 AN 1998138883 MEDLINE

**Different effect of cold storage and rewarming on three pH regulating transporters in isolated rat hepatocytes.** Forestal, Doris A.; Haimovici, Judith; Haddad, Pierre. Dep. Pharmacologie, Univ. Montreal, Montreal, PQ, H3C 3J7, Can. Am. J. Physiol. (1997), 272(3, Pt. 1), G638-G645. CODEN: AJPHAP; ISSN: 0002-9513. Journal written in English. CAN 126:304200

**Title** : Na<sup>+</sup>/H<sup>+</sup> exchange inhibition improves long-term myocardial preservation  
**Authors** : Kim, Y.I.L., Herijgers, P., Laycock, S.K., Van Lommel, A., Verbeken, E., Flameng, W.J.  
**Source** : Ann.Thorac.Surg. 66(2):436-442 (1998 Aug)

M.Karmazyn, M Avkiran und L. Fliegel, „The Sodium-Hydrogen-Exchanger – from molecule to ist role in disease“ Kluwer Academic Publishers (2003): Chapter 19, Seiten 279- 287

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*Cytotoxic and cardiotoxic medicaments:*

**Influence of cell membrane potential, and selectivity of Na<sup>+</sup>/H<sup>+</sup> exchanger and Cl<sup>-</sup>/HCO<sub>3</sub><sup>-</sup> exchanger on the intracellular accumulation of adriamycin.** Asaumi, J.I., Kawasaki, S; Gao, X.S.; Kuroda, M. Hiraki, Y. Anticancer Res., 16(2): 725-728 (1996)

**Ethanol potentiates hypoxic liver injury: role of hepatocyte Na(+) overload.** Carini R; De Cesaris M G; Spendore R; Albano E Department of Medical Science, University 'A. Avogadro' of East Piedmont, Via Solaroli 17, 27100, Novara, Italy BIOCHIMICA ET BIOPHYSICA ACTA (2000 Nov 15), 1502(3), 508-14. Journal code: A0W. ISSN:0006-3002. Netherlands Journal; Article; (JOURNAL ARTICLE) written in English. AN 2001078212 MEDLINE (Copyright 2001 U.S. National Library of Medicine)

**The role of G protein, protein kinase C and Na(+)–H<sup>+</sup> exchanger in endothelin-1-induced cardiomyocyte hypertrophic responses.** Wu B; Wang T H; Pan J Y; Zhu X N; Zhan C Y Department of Physiology, Sun Yat-Sen University of Medical Sciences, Guangzhou 510089 SHENG LI HSUEH PAO [ACTA PHYSIOLOGICA SINICA] (1998 Feb), 50(1), 87-93. Journal code: UPB. ISSN:0371-0874. China Journal; Article; (JOURNAL ARTICLE) written in Chinese. DN 21222637 PubMed ID 11324523 AN 2001261379 MEDLINE (Copyright 2001 U.S. National Library of Medicine)

**Contribution of Na<sup>+</sup>/H<sup>+</sup> exchange to Na<sup>+</sup> overload in the ischemic hypertrophied hyperthyroid rat heart.** Bak, Marianna I.; Ingwall, Joanne S. 221 Longwood Ave, NMR Laboratory for Physiological Chemistry, Department of Medicine, Brigham and Women's Hospital and Harvard Medical School, Room BLI 247, Boston, MA, USA. Cardiovascular Research (2003), 57(4), 1004-1014. CODEN: CVREAU ISSN: 0008-6363. Journal written in English. AN 2003:212655 CAPLUS (Copyright 2003 ACS)

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*Ischemias of the nervous system:*

M.Karmazyn, M Avkiran und L. Fliegel, „The Sodium-Hydrogen-Exchanger – from molecule to ist role in disease“ Kluwer Academic Publishers (2003): Chapter 12, Seiten 177- 185

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*Overexcitability of the central nervous system:*

Transmembrane acid extrusion mechanisms: a target for neuropsychopharmacological drug design.  
U.Bonnet, M. Wiemann, D. Bingmann and M. Gastpar AGNP-Symposium, Nürnberg, 8.-11.Oct.  
1997

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*Shock.*

Induction of tyrosine phosphorylation and  $\text{Na}^+/\text{H}^+$  exchanger activation during shrinkage of human neutrophils. Krump, Eric; Nikitas, Kaliopi; Grinstein, Sergio. Div. Cell Biol., Res. Inst., Hospital Sick Children, Toronto, ON, Can. *Journal of Biological Chemistry* (1997), 272(28), 17303-17311.  
CODEN: JBCHA3 ISSN: 0021-9258. Journal written in English. CAN 127:189600 AN  
1997:457494 CAPLUS

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*Proliferation:*

TI: Selective cellular acidification and toxicity of weak organic acids in an acidic microenvironment.  
AU: Karuri-AR; Dobrowsky-E; Tannock-IF  
AD: Division of Experimental Therapeutics, Ontario Cancer Institute, Toronto, Canada.  
SO: Br-J-Cancer. 1993 Dec; 68(6): 1080-7  
\*LHM: Order form  
Printed version: Library K607:14(1960)-58(1988)No.6  
ISSN: 0007-0920  
PY: 1993  
LA: ENGLISH  
CP: ENGLAND

Title : Sodium overload through voltage-dependent  $\text{Na}^+$  channels induces necrosis and apoptosis of rat superior cervical ganglion cells in vitro  
Authors : Koike,T., Tanaka,S., Oda,T., Niromiya,T.  
Source : Brain Res.Bull. 51(4):345-355 (2000 Mar 1)  
Keywords : cytoplasmic acidification;  $\text{Na}^+/\text{H}^+$  exchanger; sympathetic neuron; veratridine; TUNEL; NGF; calcium

Diabetes-induced vascular hypertrophy is accompanied by activation of  $\text{Na}(+)-\text{H}(+)$  exchange and prevented by  $\text{Na}(+)-\text{H}(+)$  exchange inhibition. Jandeleit-Dahm K; Hannan K M; Farrelly C A; Allen T J; Rumble J R; Gilbert R E; Cooper M E; Little P J Department of Medicine, University of Melbourne, Austin and Repatriation Medical Centre-Repatriation Campus, West Heidelberg, Australia CIRCULATION RESEARCH (2000 Dec 8), 87(12), 1133-40. Journal code: 0047103. ISSN:1524-4571. United States. Journal; Article; (JOURNAL ARTICLE) written in English. DN 20565058 PubMed ID 11110770 AN 2001097228 MEDLINE

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*Cell migration, metastasis:*

Paclitaxel Induces Apoptosis via Protein Kinase A- and p38 Mitogen-activated Protein-dependent Inhibition of the  $\text{Na}^+/\text{H}^+$  Exchanger (NHE) NHE Isoform 1 in Human Breast Cancer Cells. Reshkin, Stephan J.; Bellizzi, Antonia; Cardone, Rosa Angela; Tommasino, Massimo; Casavola, Valeria; Paradiso, Angelo. Department of General and Environmental Physiology, University of Bari, Bari, Italy. Clinical Cancer Research (2003), 9(6), 2366-2373. CODEN: CCREF4 ISSN: 1078-0432. Journal written in English. AN 2003:442017 CAPLUS

Expression of Calcineurin B Homologous Protein 2 Protects Serum Deprivation-induced Cell Death by Serum-independent Activation of Na<sup>+</sup>/H<sup>+</sup> Exchanger. Pang, Tianxiang; Wakabayashi, Shigeo; Shigekawa, Munekazu. Department of Molecular Physiology, National Cardiovascular Center Research Institute, Suita, Osaka, Japan. *Journal of Biological Chemistry* (2002), 277(46), 43771-43777. CODEN: JBCHA3 ISSN: 0021-9258. Journal written in English. CAN 138:134720 AN 2002:862691 CAPLUS

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*Fibrotic disorders, hyperplasias, CHF:*

Therapeutic potential of Na-H exchange inhibitors for the treatment of heart failure. Karmazyn, Morris. Department of Pharmacology and Toxicology, University of Western Ontario, London, ON, Can. *Expert Opin. Invest. Drugs* (2001), 10(5), 835-843. CODEN: EOIDER ISSN: 1354-3784. Journal written in English. AN 2001:321917 CAPLUS (Copyright 2001 ACS)

Na(+)/H(+) exchange inhibition reduces hypertrophy and heart failure after myocardial infarction in rats. Kusumoto K; Haist J V; Karmazyn M. Department of Pharmacology and Toxicology, The University of Western Ontario, London, Ontario, Canada N6A 5C1. *AMERICAN JOURNAL OF PHYSIOLOGY. HEART AND CIRCULATORY PHYSIOLOGY* (2001 Feb), 280(2), H738-45. (already mentioned above)

Inhibition of Na(+) - H(+) Exchange Prevents Hypertrophy, Fibrosis, and Heart Failure in beta(1)-Adrenergic Receptor Transgenic Mice. Engelhardt Stefan; Hein Lutz; Keller Ursula; Klambt Kerstin; Lohse Martin J. Institut fur Pharmakologie und Toxikologie, Universitat Wurzburg, Germany. *CIRCULATION RESEARCH* (2002 Apr 19), 90(7), 814-9. Journal code: 0047103. ISSN: 1524-4571. Journal; Article; (JOURNAL ARTICLE) written in English. DN 21961631 PubMed ID 11964375 AN 2002227742 In-process for MEDLINE (Copyright 2002 U.S. National Library of Medicine)

Title: Role of ion channels and exchangers in mechanical stretch-induced cardiomyocyte hypertrophy  
Author: Yamazaki, Tsutomu; Komuro, Issei; Kudoh, Sumiyo; Zou, Yunzeng; Nagai, Ryozo; Aikawa, Ryuichi; Uozumi, Hiroki; Yazaki, Yoshio.  
Corporate Source: Department of Medicine III, University of Tokyo School of Medicine, Tokyo, 113, Japan.  
Source: Circ. Res. (1998), 82(4), 430-437. CODEN: CIRUAL; ISSN: 0009-7330.

Title : Na<sup>+</sup>/H<sup>+</sup> exchange inhibition attenuates hypertrophy and heart failure in 1-wk postinfarction rat myocardium  
Authors : Yoshida, H., Karmazyn, M.  
Source : Am.J.Physiol.Heart Circ.Physiol. 278(1):H300-H304 (2000 Jan)

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*Hypertension, intracellular pH, cancer:*

Change of sodium-hydrogen exchanger mRNA expression in lung of patients with pulmonary hypertension and its clinical significance. He, Hongbing; Zhang, Baoren; Zhu, Jialin. Department of Cardiothoracic Surgery, Changhai Hospital, Second Military Medical University, Shanghai, Peop. Rep. China. *Dier Junyi Daxue Xuebao* (2002), 23(2), 193-195. CODEN: DJXUE5 ISSN: 0258-879X. Journal written in Chinese. CAN 138:22899 AN 2002:324567 CAPLUS (Abstract only)

Anion exchanger isoform 2 operates in parallel with Na<sup>+</sup>/H<sup>+</sup> exchanger isoform 1 during regulatory volume decrease of human cervical cancer cells. Shen, Meng-Ru; Wilkins, Robert J.; Chou, Cheng-Yang; Ellory, J. Clive. University Laboratory of Physiology, Oxford, UK. *FEBS Letters* (2002), 512(1-3), 52-58. CODEN: FEBLAL ISSN: 0014-5793. Journal written in English. CAN 136:338536 AN 2002:135255 CAPLUS

Na<sup>+</sup>/H<sup>+</sup> exchanger-dependent intracellular alkalinization is an early event in malignant transformation and plays an essential role in the development of subsequent transformation-associated phenotypes. Reshkin, Stephan J.; Bellizzi, Antonia; Caldeira, Sandra; Albarani, Valentina; Malanchi, Ilaria; Poignee,

Manuela; Alunni-Fabbroni, Marianna; Casavola, Valeria; Tommasino, Massimo. Department of General and Environmental Physiology, University of Bari, Bari, Italy. FASEB Journal (2000), 14(14), 2185-2197. CODEN: FAJOEC ISSN: 0892-6638. Journal written in English. CAN 134:293715 AN 2001:126348 CAPLUS

Apoptosis of leukemic cells accompanies reduction in intracellular pH after targeted inhibition of the Na+/H+ exchanger. Rich, Ivan N.; Worthington-White, Diana; Garden, Oliver A.; Musk, Philip. Division of Transplantation Medicine, South Carolina Cancer Center, Palmetto Richland Memorial Hospital, Columbia, SC, USA. Blood (2000), 95(4), 1427-1434. CODEN: BLOOAW ISSN: 0006-4971. Journal written in English. CAN 132:263316 AN 2000:116168 CAPLUS

Induction of the acidification and apoptosis of human lung cancer cell line through inhibition of Na+/H+ exchanger-1 with dimethyl amiloride. Wu, Guoming; Li, Weiliang; Huang, Guijun; Qian, Guisheng. Xinqiao Hospital, Third Military Medical University, Chungking, Peop. Rep. China. Di-San Junyi Daxue Xuebao (1998), 20(6), 476-479. CODEN: DYXUE8 ISSN: 1000-5404. Journal written in Chinese. CAN 131:153513 AN 1999:359555 CAPLUS  
(Abstract only)

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*Antiinflammatory effect:*

NHE blockade inhibits chemokine production and NF- $\kappa$ B activation in immunostimulated endothelial cells. Nemeth, Zoltan H.; Deitch, Edwin A.; Lu, Qi; Szabo, Csaba; Hasko, Gyorgy. Department of Surgery, University of Medicine and Dentistry-New Jersey Medical School, Newark, NJ, USA. American Journal of Physiology (2002), 283(2, Pt. 1), C396-C403. CODEN: AJPHAP ISSN: 0002-9513. Journal written in English. CAN 137:200015 AN 2002:670281 CAPLUS

Na+/H+ exchanger blockade inhibits enterocyte inflammatory response and protects against colitis. Nemeth, Zoltan H.; Deitch, Edwin A.; Szabo, Csaba; Mabley, Jon G.; Pacher, Pal; Fekete, Zoltan; Hauser, Carl J.; Hasko, Gyorgy. Department of Surgery, New Jersey Medical School, University of Medicine and Dentistry of New Jersey, Newark, NJ, USA. American Journal of Physiology (2002), 283(1, Pt. 1), G122-G132. CODEN: AJPHAP ISSN: 0002-9513. Journal written in English. CAN 138:100560 AN 2002:544866 CAPLUS

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*Malaria, coccidiosis, protozoa:*

Na+/H+ Antiporter, Chloroquine Uptake and Drug Resistance: Inconsistencies in a Newly Proposed Model. Comment. Bray, P. G.; Ward, S. A.; Ginsburg, H. Department of Pharmacology and Therapeutics, The University of Liverpool, Liverpool, UK. Parasitology Today (1999), 15(9), 360-363. CODEN: PATOE2 ISSN: 0169-4758. Journal written in English. CAN 132:131808 AN 1999:538503 CAPLUS

Differential stimulation of the Na+/H+ exchanger determines chloroquine uptake in Plasmodium falciparum. Wunsch, Stefan; Sanchez, Cecilia P.; Gekle, Michael; Grosse-Wortmann, Lars; Wiesner, Jochen; Lanzer, Michael. Zentrum fur Infektionsforschung, Wurzburg, Germany. Journal of Cell Biology (1998), 140(2), 335-345. CODEN: JCLBA3 ISSN: 0021-9525. Journal written in English. CAN 128:200578 AN 1998:64929 CAPLUS

Is the putative chloroquine resistance mediator CG2 the Na+/H+ exchanger of Plasmodium falciparum?. Sanchez C P; Horrocks P; Lanzer M. CELL (1998 Mar 6), 92(5), 601-2. Journal code: 0413066. ISSN:0092-8674. United States. Letter written in English. DN 98165339 PubMed ID 9506514 AN 1998165339 MEDLINE

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*Lipoproteins, arteriosclerosis, hyperlipidemias, hypercholesterolemia:*

The effects of cariporide against atherosclerosis induced by high lipid diet in rabbits. Liu, Liying; Wen, Jifang; Tu, Jianghua; Zhong, Zhilian; Wu, Jinxiang. Xiangya Medical College, South Central University, Changsha, Hunan Province, Peop. Rep. China. Zhongguo Dongmai Yinghua Zazhi (2002), 10(1), 1-5. CODEN: ZDYZFM ISSN: 1007-3949. Journal written in Chinese. CAN 138:215124 AN 2003:205771 CAPLUS

Protective effect of Na<sup>+</sup>-H<sup>+</sup> exchanger inhibitor cariporide on the injury of vascular endothelial function induced by hypercholesterolemia. Tu, Jianghua; Liu, Liying; Zhang, Xiaohong; Liu, Guizhen. Department of Pharmacology, Xiangya School of Medicine, Central South University, Changsha, Peop. Rep. China. Hunan Yike Daxue Xuebao (2002), 27(1), 13-16. CODEN: HYXBET ISSN: 1000-5625. Journal written in Chinese. CAN 138:19268 AN 2002:308597 CAPLUS

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*Endothelial dysfunction:*

Gumina R J; Moore J; Schelling P; Beier N; Gross G J Na(+)H(+) exchange inhibition prevents endothelial dysfunction after I/R injury. AMERICAN JOURNAL OF PHYSIOLOGY. HEART AND CIRCULATORY PHYSIOLOGY (2001 Sep), 281(3), H1260-6. Journal code: 100901228. ISSN:0363-6135. DN 21404845 PubMed ID 11514295 AN 2001468887 MEDLINE

Horikawa N; Kurabayashi Y; Itoh N; Nishioka M; Matsui K; Kawamura N; Ohashi N Na<sup>+</sup>/H<sup>+</sup> exchange inhibitor SM-20220 improves endothelial dysfunction induced by ischemia-reperfusion. JAPANESE JOURNAL OF PHARMACOLOGY (2001 Mar), 85(3), 271-7. Journal code: 2983305R. ISSN:0021-5198. DN 21221722 PubMed ID 11325019 AN 2001473571 MEDLINE

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*Diabetes (NIDDM):*

Benzoylguanidine pharmaceuticals for the treatment of non-insulin-dependent diabetes mellitus. Gericke, Rolf; Baumgarth, Manfred; Minck, Klaus; Mesangeau, Didier; Doare, Liliane; Kergoat, Micheline. (Merck Patent G.m.b.H., Germany). PCT Int. Appl. (2000), 18 pp. CODEN: PIXXD2 WO 0030624 A2 20000602 Designated States W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM. Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG. Patent written in English. Application: WO 99-EP8795 19991116. Priority: EP 98-122419. CAN 133:9134 AN 2000:368077 CAPLUS (Copyright 2003 ACS)

Patent Family Information

| Patent No.   | Kind | Date     | Application No.   | Date     |  |
|--|------|----------|---|----------|--|
| WO 2000030624  | A2   | 20000602 | WO 1999-EP8795  | 19991116 |  |
| WO 2000030624  | A3   | 20001005 | W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |          |  |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG |      |          |   |          |  |
| BR 9915667   | A    | 20010814 | BR 1999-15667   | 19991116 |  |
| EP 1131064   | A2   | 20010912 | EP 1999-958047  | 19991116 |  |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO  |      |          |   |          |  |
| JP 2002530325  | T2   | 20020917 | JP 2000-583507  | 19991116 |  |
| NO 2001002563  | A    | 20010525 | NO 2001-2563  | 20010525 |  |
| Priority Application   |      |          |   |          |  |
| EP 1998-122419   | A    | 19981126 |   |          |  |
| WO 1999-EP8795   | W    | 19991116 |   |          |  |

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*Damage from diabetes, diabetic nephropathy, diabetic retinopathy, diabetic cardiomyopathy:*

M.Karmazyn, M Avkiran und L. Fliegel, „The Sodium-Hydrogen-Exchanger – from molecule to its role in disease“ Kluwer Academic Publishers (2003): Chapter 10, Seiten 149- 155

Amiloride-sensitive  $\text{Na}^+/\text{H}^+$  exchange in erythrocytes of patients with NIDDM. A prospective study. Koren, W.; Koldanov, R.; Pronin, V. S.; Postnov, I. Y.; Peleg, E.; Rosenthal, T.; Berezin, M.; Postnov, Y. V. Department Medicine, Chaim Sheba Medical Center, Tel Hashomer, Israel. *Diabetologia* (1997), 40(3), 302-306. CODEN: DBTGAJ ISSN: 0012-186X. Journal written in English. CAN 126:301601 AN 1997:164759 CAPLUS

The role of  $\text{Na}^+/\text{H}^+$  exchangers in the pathogenesis of arterial hypertension and vascular complications of diabetes mellitus. Telejko, Beata. Klinika Endokrynologii, Diabetologii i Chorob Wewnetrznych, Akademia Medyczna, Bialystok, Pol. *Endokrynologia Polska* (2001), 52(2), 249-257. CODEN: EDPKA2 ISSN: 0423-104X. Journal; General Review written in Polish. CAN 137:61004 AN 2002:112002 CAPLUS

Diabetes-induced vascular hypertrophy is accompanied by activation of  $\text{Na}(+)-\text{H}(+)$  exchange and prevented by  $\text{Na}(+)-\text{H}(+)$  exchange inhibition. Jandeleit-Dahm K; Hannan K M; Farrelly C A; Allen T J; Rumble J R; Gilbert R E; Cooper M E; Little P J Department of Medicine, University of Melbourne, Austin and Repatriation Medical Centre-Repatriation Campus, West Heidelberg, Australia *CIRCULATION RESEARCH* (2000 Dec 8), 87(12), 1133-40. Journal code: 0047103. ISSN:1524-4571. United States. Journal; Article; (JOURNAL ARTICLE) written in English. DN 20565058 PubMed ID 11110770 AN 2001097228 MEDLINE

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*Diseases and disorders which are essentially caused by age-related changes in vital organs, aging organism:*

M.Karmazyn, M Avkiran und L. Fliegel, „The Sodium-Hydrogen-Exchanger – from molecule to ist role in disease“ Kluwer Academic Publishers (2003): Chapter 14, Seiten 211- 217